

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 June 2006 (08.06.2006)

PCT

(10) International Publication Number
WO 2006/059745 A1

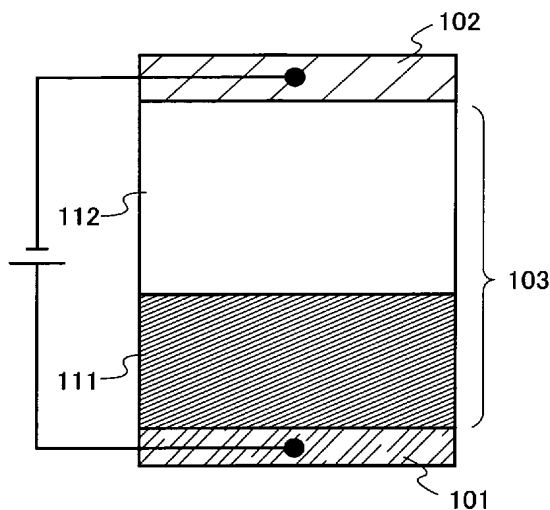
- (51) International Patent Classification:
H01L 51/50 (2006.01) *C09K 11/06* (2006.01)
- (21) International Application Number:
PCT/JP2005/022240
- (22) International Filing Date:
28 November 2005 (28.11.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
2004-347518 30 November 2004 (30.11.2004) JP
2005-084566 23 March 2005 (23.03.2005) JP
- (71) Applicant (for all designated States except US): SEMI-CONDUCTOR ENERGY LABORATORY CO., LTD.
[JP/JP]; 398, Hase, Atsugi-shi, Kanagawa 2430036 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): NAKASHIMA, Harue [JP/JP]; c/o SEMICONDUCTOR ENERGY LABORATORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP). KAWAKAMI, Sachiko. KUMAKI,

Daisuke. SEO, Satoshi. IKEDA, Hisao. SAKATA, Junichiro. IWAKI, Yuji.

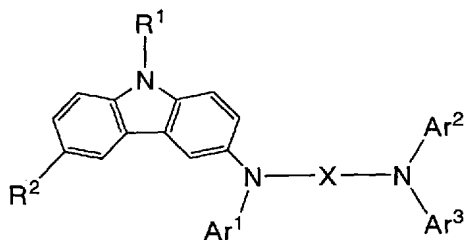
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: LIGHT EMITTING ELEMENT AND LIGHT EMITTING DEVICE



(57) Abstract: One object of the present invention is to provide a light emitting element that includes an organic compound and an inorganic compound and has low driving voltage. The light emitting element of the invention includes a plurality of layers between a pair of electrodes, wherein the plurality of layers includes a layer that contains a carbazole derivative represented by a general formula (1) and an inorganic compound exhibiting an electron accepting property with respect to the carbazole derivative. By utilizing this structure, electrons are transported between the carbazole derivative and the inorganic compound and carriers are internally generated, and hence, the driving voltage of the light emitting element can be reduced.



(1)



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.